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Ministry
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Historical analysis illuminates ground manoeuvre issues

Paul R. Syms, Dstl LBSD, Fort Halstead

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prsyms@dstl.gov.uk



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Topics

- Introduction – why we've turned to HA
 - background on customer changes and the 'Hub OA'
- Role of armour in combined arms manoeuvre
- Use of armour in urban areas
- Future operations in Sub-Saharan Africa
- Retrospective: why was HA appropriate?
- Questions?

Customer changes and 'Hub OA'

- Shift of defence OA tasking from 2011–12
 - from MoD Centre to Front Line Commands
 - LBSD increasingly tasked by Land Command, Andover
- Taskings tend to be shorter term
- Much broader scope – pan-DLoD*
- Need for OA support recognized by Comd FD&T
- Instigated 'Hub OA' to ensure continuity
 - background OA tasking (now called LEDES Core Analysis)

*Defence Lines of Development: training, equipment, personnel, information, doctrine and tactics, organization, infrastructure, logistics, and interoperability

Role of armour in combined arms manoeuvre



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TacDev Role-of-Armour Study

- FD&T's exam question: what is the role of armour?
 - In context of ground manoeuvre warfare
 - Driven by need to revise **AFM 1–2: BG Tactics**
- Approach: defined five linked questions
 - reviewed historical literature to find enduring answers
 - drew on Hub OA resources

TacDev RAS questions

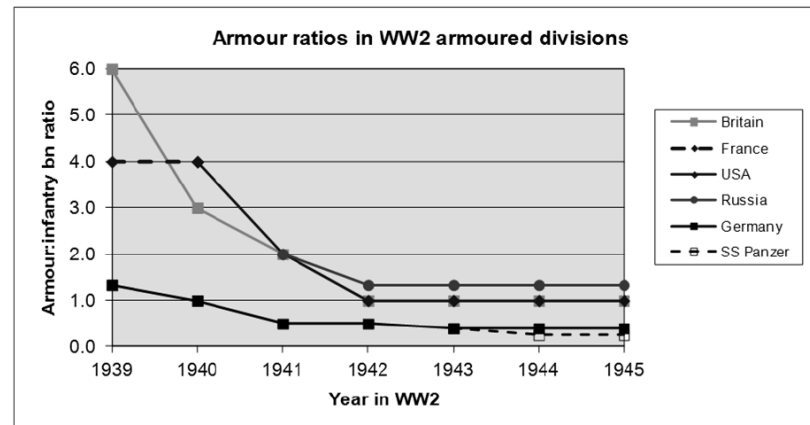
1. Is armour needed?
2. How much armour is needed?
3. How should armour best be used?
4. What is the role of armour in complex terrain?
 - related to second study; will discuss later
5. How best to counter enemy armour?

Q1: Is armour needed?

- Fundamental need for shock in the assault –
 - evidence: Cambrai, Sedan, etc.
 - And exploiting breakthrough – evidence: *Blitzkrieg*
- Psychology: bolsters friends, shocks enemy
 - evidence: David Rowland's DERA/Dstl HA
- Light and medium armour works in some cases ...
 - but not in presence of heavy enemy armour
- Tanks *do* have a role in LIOs – evidence Afghanistan
 - deterrent, and precision firepower (*cf.* CAS!)

Q2: How much armour?

- 1:2 armour:infantry in warfighting
 - evidence: convergence of historical organizations
- 1:20 in LIOs? (A little goes a long way!)
 - evidence: US, Canadian, Danish ops in Afghanistan
- 4-tank troops best
- 3-troop squadrons
- 3-sqn regiments ...
 - the 'rule of threes'



Q3: How should it best be used?

- Combined arms ground manoeuvre
 - tanks, infantry, field artillery, AT, ISTAR, engineers, AD ...
 - evidence: Arab-Israeli wars: 1967, 1973, 1982, 2006 ...
- Tanks should be concentrated if enemy uses tanks
 - but dispersed armour *can* be effective in some cases
 - evidence: WW2 Allied campaigns in Far East
- When in defence use tanks for counterattack
 - locally and operationally
 - evidence: Western Allies and Germany in WW2

Q5: How to counter enemy tanks?

- The best anti-tank system is another tank
 - emphasis on technology, training and numbers
 - evidence: Arab-Israeli wars: 1967, 1973, 1982 ...
- Other AT systems all have drawbacks
 - ATGWs and mines of value in defence only
 - FW aircraft and AH limited by ISTAR and weather
 - especially in the offense
 - evidence: WW2, Iraq 1991, Kosovo 1999
 - LAWs are a 'last ditch' system

Use of armour in urban areas

(Also addressed TacDev RAS Q4)



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Armour in urban operations

- FD&T's exam question: is armour useful in urban environments ... and other 'complex terrains'?
 - If so, how should it be used?
- To inform training and doctrine
 - Feeding the **Urban Warrior** experimentation design
- Method: literature review of history, HA and OA

Urban ops conclusions ... 1

- Main effect of terrain is to restrict movement and LoS
 - these terrains favour the attacker (Rowland, 1990s studies)
 - because they limit the defender's range and fields of fire
 - evidence: study of WW2, Vietnam, Iraq (Rowland, 1990s)
- But not all urban terrains are alike
 - RAND developed a robust global classification, UTZs I to VII
 - Dstl added UTZ VIII (shanty town)
 - recommended that Army doctrine adopt UTZs I to VIII

Urban ops conclusions ... 2

- Role of armour depends on UTZ types
 - except in densest types, tanks offer effective support
- ‘Platoon-level BGs’ emerged in WW2
 - by Germany, Russia, USA
 - platoon of infantry, 1 MBT, 1 engineer section
 - sometimes with a flamethrower or bulldozer
 - Army needs more dozer blades for MBTs

Operating in Sub-Saharan Africa



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Sub-Saharan Africa study

- FD&T's exam question: what of future ops in SSA?
 - implications of ground manoeuvre force projection
 - extending to force planning, logistics, air operations
- Approach: PMESII-PT analysis* ...
 - re-invented the method before we'd heard of PMESII-PT
- Part of the analysis used HA
 - to address the question of enduring or transience of conflict
 - trying to identify long-term conflict trends and drivers

*US acronym: Political, military, economic, social, information, infrastructure, physical and time; adopted by UK in 2012



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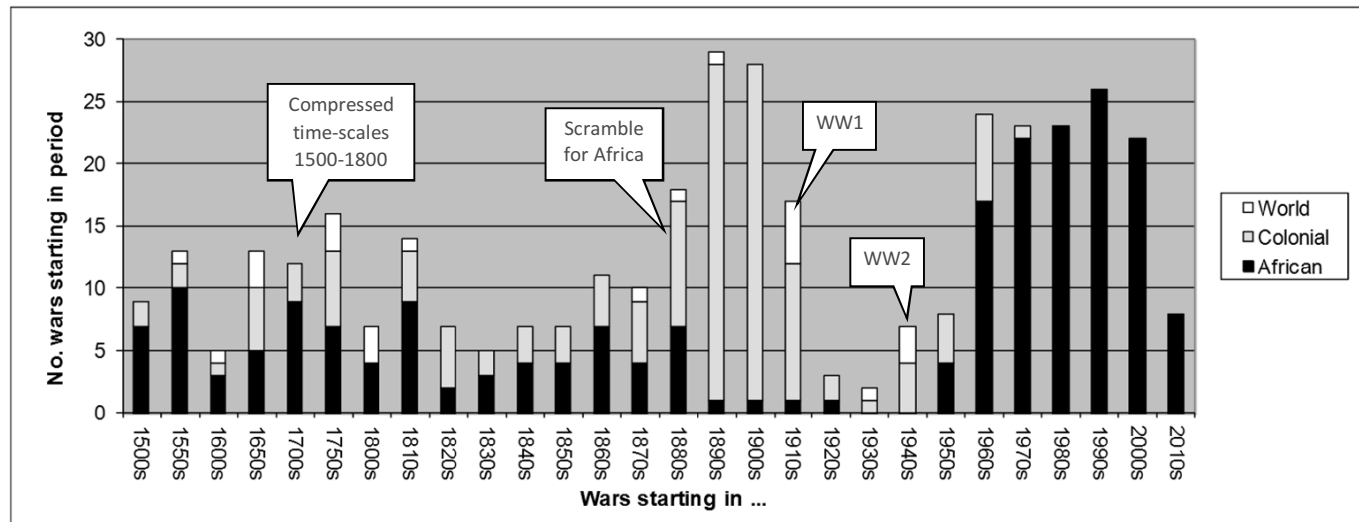


Is SSA conflict enduring?

- If yes, then history can inform the future
 - and UK ground intervention may be of limited effectiveness
- If no, then history will be a poor guide
 - UK intervention could arguably more effective
 - and must be planned on a case-by-case basis
- Method: plot historical SSA wars in time and space
 - from 1500 to 2012 (but using modern country names)
 - wide variety of sources including the ‘usual suspects’
 - Dupuy & Dupuy, Eggenberger, Laffin, ACLED ...

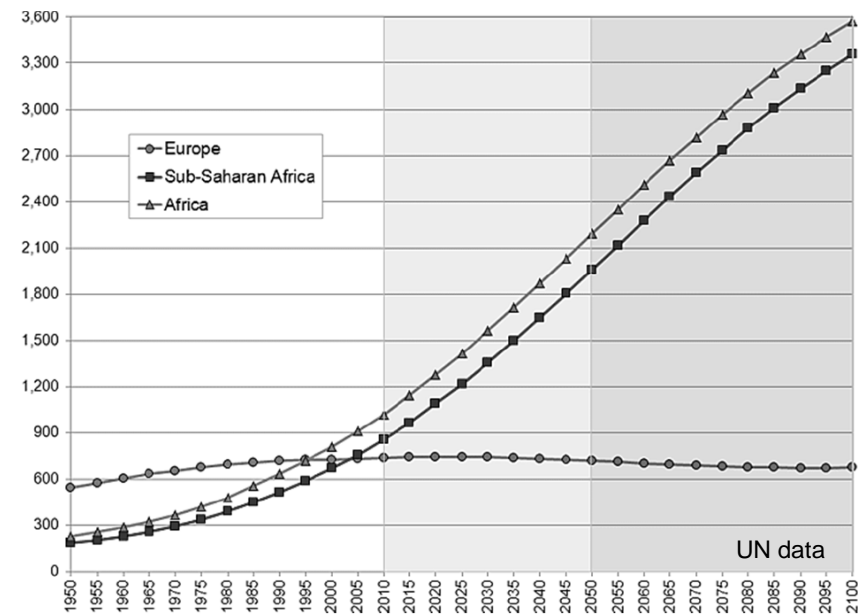
SSA conflict timeline

- Plotted *types* and *start dates* of 374 known wars
 - Caveat: ignored *duration* and *severity* (number of deaths)
 - WW1 and WW2 split into 4 distinct conflicts each



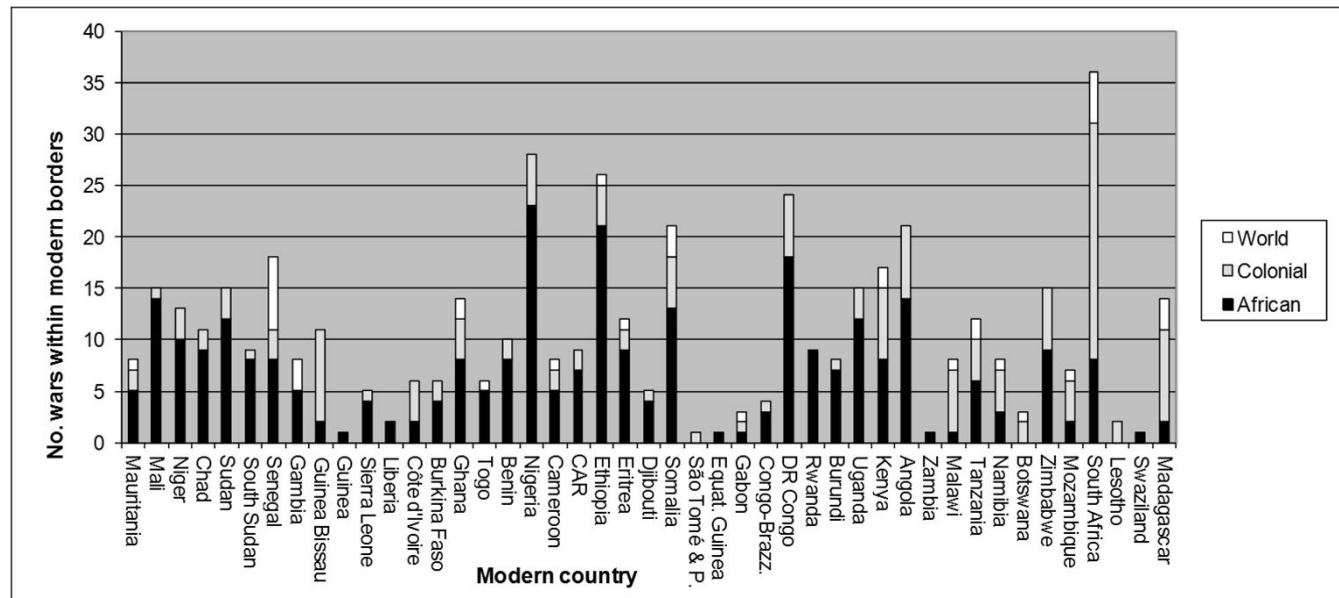
Will demographics drive future?

- SSA conflict severity is declining, but ...
 - demographics are pessimistic ...
 - ethnic tensions high
 - e.g. Mali, Rwanda
 - religious tensions high
 - e.g. Nigeria
 - and when oil runs out?



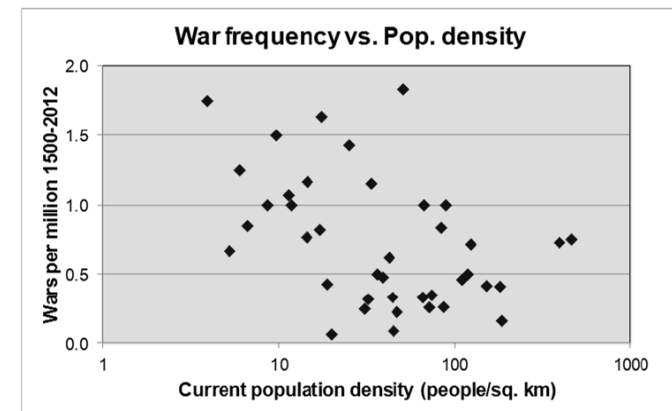
SSA conflicts by country

- Analysed *locations* of 374 known wars
 - by the modern countries in which they were fought



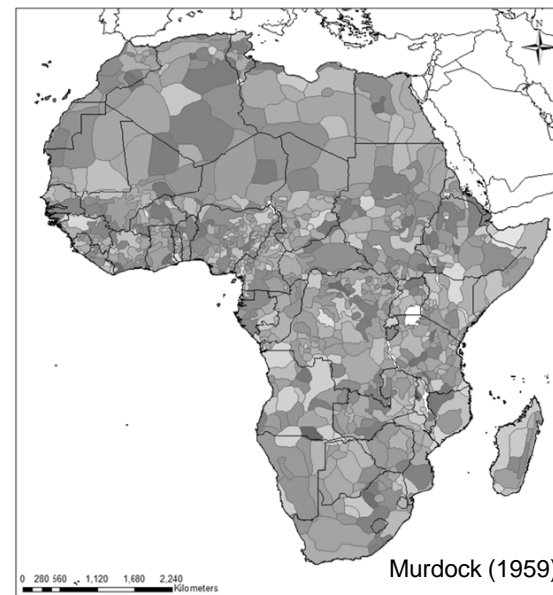
Other conflict drivers in SSA?

- Explored potential socio-economic drivers
 - e.g. population size, density, GDP, oil wealth ...
 - country area, size of armed forces, religiosity ...
- Tried to correlate with enduring conflict metrics ...
- And failed!
 - either produced ‘shotgun plots’ ...
 - or flashes of the blindingly obvious
 - more people, more wars ...



Why no clear spatial correlations?

- SSA countries are almost all modern constructs
 - very little correlation with the ‘human terrain’



Retrospective: why was HA appropriate?



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Why was HA appropriate?

- Timeliness: can provide rapid advice
- Flexibility: can address a wider range of questions
 - *“HA refreshes the DLoDs that other OA brews cannot reach”*
- Closer to the primary information sources
 - no need for the abstraction stage of modelling ...
 - though every analogy must pass the ‘appropriateness test’
- Customer buy-in
 - link to real operations is transparent
 - Hub OA concept continued in LEDS Core Analysis

Questions?

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